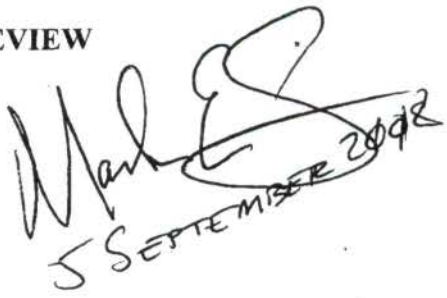
PRODUCT PERFORMANCE / EFFICACY REVIEW

Mark Suarez, Entomologist - IB



DATE:	5 September 2008
EPA REG. NUMBER:	68543-35
PRODUCT NAME:	Bengal Product 2007A
REGISTRANT:	Bengal Products Inc.
PM:	Richard Gebken, PM10
REVIEWER:	Ann Sibold
DECISION #.:	392100
DP BARCODE:	351741
ACTION:	R340
ACTIVE INGREDIENT(S):	069005, Phenothrin 2.0%
TYPE:	Dry Fogger
OPPTS GUIDELINE(S):	810.3500

MRID:			
	47385001	Submitted	GLP? No.
	47385002	Submitted	GLP? No.
	47385003	Submitted	GLP? No.

SITES & PESTS	Indoors	Cockroaches, Body Lice, Bed Bugs, Yellowjackets, Fleas,

LABEL APPLICATION RATE: Cockroaches (incl. Palemtto Bugs and Water Bugs), Ticks, Ants, Lice, Dust Mites; Mosquitoes, Flies, Gnats, Bed Bugs, Yellow Jackets:
2.7 oz./6000 ft^3

Fleas:
2.7 oz./3000 ft^3

STUDY APPLICATION RATE: See individuals summaries.

STUDY SUMMARY

MRID 47385001. Spero, N. (2007) An Evaluation of the Efficacy of a Total Release Fogger Against American Cockroaches, Body Lice, Bedbugs and Yellowjackets. Project Number: N0201007001A173, 020/0079. Unpublished study prepared by Insect Control and Research, Inc. 30 p.

The efficacy of the subject formulation [EPA Reg. No. 68543-35] against the American cockroach, body lice, bed bugs, and yellowjackets in laboratory trials. The contents of the dry fogger, 2.7 oz. (76.82 g), were released into a 6000 ft^2 test chamber containing insects placed in arenas at 4 points both 8' and 15' from the fogger release point. The test chamber remained sealed for 2 hours before ventilation. For cockroaches, body lice, and bed bugs 5 adult male and 5 female insects were placed into each of the 8 containers. Ten female yellowjackets were placed into each of 8 wire mesh cages. Untreated, but otherwise identically handled, controls were conducted with 4 replicates (i.e., arenas) of the appropriate number of each arthropod. Knockdown and mortality were recorded at 2 and 24 hours, respectively.

Results are presented below (Table1).

	Treatment				Control
Pest	% KD 2 H	% Morbidity 24 H	% Mortality 24 H	% Active 24 H	% Mortality 24 H
American cockroach	100	36.25	61.25	2.5	0
Body lice	100	3.8	96.2	0	0
Bed bug	100	11.25	88.75	0	0
Yellowjacket	100	0	100	0	0

Table 1. Knockdown, morbidity, and mortality of insects treated with Bengal Product 2007A at a rate of 2.7 oz/6000 ft^2. Control mortality at 24 hours is also provided.

MRID 47385002. Gaynor, W. (2007) An Evaluation of the Efficacy of a Total Release Fogger Against German Cockroaches and Cat Fleas. Project Number: 020/0080, N0201107001A173. Unpublished study prepared by Insect Control and Research, Inc. 32 p.

The efficacy of the subject formulation [EPA Reg. No. 68543-35] against the German cockroach and fleas in laboratory trials. The contents of the dry fogger, 2.7 oz. (76.82 g), were released into a 6000 ft^2 test chamber containing insects placed in arenas at 4 points 10' from the fogger release point. The test chamber remained sealed for 3 hours before ventilation. Fogging was replicated 3 times. For German cockroaches 5 adult male and 5 female insects were placed into each of the 4 containers. Ten adults fleas were placed into each of the flea containers. Untreated, but otherwise identically handled, controls were conducted with 4 samples (i.e., arenas) of 10 of each insect for each of 3 replicates. Knockdown and mortality were recorded at 3 and 24 hours, respectively.

Results are presented below (Table 2).

Pest	Treatment				Control
	% KD 3 H	% Morbidity 24 H	% Mortality 24 H	% Active 24 H	
German cockroach	100				0 % KD
		83.333	15.000	0.017	0.8333 % Mortality
Cat Flea	0.1				0 % KD
		21.82	42.73	35.45	0 % Mortality

Table 2. Knockdown, morbidity, and mortality of insects treated with Bengal Product 2007A at a rate of 2.7 oz/6000 ft^2. Control knockdown at 3 hours and mortality at 24 hours are also provided.

MRID 47385003. Gaynor, W. (2008) An Evaluation of the Efficacy of a Total Release Aerosol (Fogger) Against Cat Fleas. Project Number: 020/0083, N0201107003A173. Unpublished study prepared by Insect Control and Research, Inc. 24 p.

The efficacy of the subject formulation [EPA Reg. No. 68543-35] against the cat fleas in laboratory trials. The contents of the dry fogger, 2.7 oz. (76.82 g), were released into a 3000 ft^2 test chamber containing insects placed in arenas at 4 points 6' from the fogger release point. The test chamber remained sealed for 4 hours before ventilation. Fogging was replicated 3 times. For German cockroaches 5 adult male and 5 female insects were placed into each of the 4 containers. Ten adults fleas were placed into each of the flea containers. Untreated, but otherwise identically handled, controls were conducted with 4 samples (i.e., arenas) of 10 of each insect for each of 3 replicates. Knockdown and mortality were recorded at 3 and 24 hours, respectively.

Results are presented below (Table 3).

Pest	Treatment			Control
	% Morbidity 24 H	% Mortality 24 H	% Active 24 H	% Mortality
Cat Flea	6.3	88.29	5.41	0

Table 3. Morbidity and mortality of insects treated with Bengal Product 2007A at a rate of 2.7 oz/3000 ft^2. Control mortality at 24 hours is also provided.

ENTOMOLOGIST'S COMMENTS AND RECOMMENDATIONS

The data submitted are adequate to support some of the desired label claims. The comingling of morbidity and mortality data is unacceptable. The data submitted failed to claims against cockroaches (mortality of 15 - 61%), bed bugs (88.75%) or fleas (42.73%) at an application rate of 2.7 oz per 6000 ft^2. At 2.7 oz per 3000 ft^2, the product fails to perform adequately against cat fleas (88.29% mortality) to support listing fleas on the label. Although the mortality for bed bugs approaches acceptable levels, the exposure is unrealistic. Bed bugs are unlikely to be in the open during fogging.

Data do support claims that the product will kill body lice and yellowjackets at 2.7 oz/ 6000 ft^2. (It should be noted that the use of this product to kill yellowjackets indoors is an unlikely scenario. Individual yellowjackets may be killed, but colonies generally are located in structural voids and, therefore, unexposed to the fog.)

The label may bear claims that the product will kill:

- Individual yellowjackets, wasps, bees, and hornets
- Lice

Additional marketing claims are addressed below. Some were previously identified as unacceptable in a previous review (dated 6 September 2007). These claims remain unacceptable. Remove them from the label.

Remove or revise, as applicable:

~~1. Concentrated Roach & Flea~~ Fogger II
~~2. Penetrates deeper to kill more (bugs)(insects)~~
3. (Reduces)(~~controls~~) heavy (~~roach~~)(insect) infestations
~~4. Kills(bugs)(insects)(roaches) on contact~~
~~5. Seeks Out (Hidden)(Roaches)(Fleas)(Bugs)(Insects)~~
6. (~~Specially~~)(Formulated)(for Use Against)~~(to Control)~~ Heavy (~~Roach~~)(~~Flea~~)(Infestations)(Populations)
~~7. (Powerful)Concentrated)(Power)(Ultra)(Gold®) Fogger~~
~~8. (Powerful)(Concentrated)(Fine)(Ultra-fine)(Fogging Mist) Fog~~
~~9. (Penetrates)(Concentrated) to Kill More (Hidden)(Bugs)(Insects)~~
~~10. (Powerful) Penetrating (Hi-Tech)(NanoFog™)(Formula)(Action)~~
11. Kills ~~18~~ *11*+ Types of *Listed* Insects

Remove any and all references to the following arthropods:

1. Cockroaches (including Waterbugs and Palmetto Bugs)
2. Fleas
3. Dust Mites
4. Bed bugs

Enclosure
068543-00035 S826684-ER